

Title (en)  
PIXEL STRUCTURE AND AN ASSOCIATED METHOD OF FABRICATING THE SAME

Title (de)  
PIXELSTRUKTUR UND DIESBEZÜGLICHES VERFAHREN ZUIHRER HERSTELLUNG

Title (fr)  
STRUCTURE DE PIXEL ET PROCEDE DE FABRICATION ASSOCIE

Publication  
**EP 1584084 A4 20091216 (EN)**

Application  
**EP 04702221 A 20040114**

Priority  
• US 2004001067 W 20040114  
• US 34621303 A 20030117

Abstract (en)  
[origin: US2004140428A1] A pixel structure, which forms one element of a focal plane array, includes a bolometer having a detector and an insulator. The detector that is made from a material that absorbs incident thermal radiation and has an electrical resistance that varies in response to changes in the temperature of the material. The insulator has a plurality of serpentine legs disposed completely underneath the detector so that the insulator extends between the detector and the substrate. And the insulator supports the detector in a spaced-apart relationship with respect to the substrate to thermally isolate the detector from the substrate. To further improve the performance of the bolometer, the bolometer includes a resonant layer between the detector and the insulator. The resonant layer is disposed such that areas defined between the detector and the resonant layer, and between the resonant layer and the insulator, form first and second resonant cavities, respectively.

IPC 1-7  
**G09G 1/00**

IPC 8 full level  
**G01J 5/00** (2006.01); **G01J 5/20** (2006.01); **G09G 1/00** (2006.01); **H01L 27/146** (2006.01); **H01L 31/02** (2006.01)

IPC 8 main group level  
**G09G** (2006.01)

CPC (source: EP US)  
**G01J 5/20** (2013.01 - EP US); **H01L 27/14669** (2013.01 - EP US)

Citation (search report)  
• [X] US 2002179837 A1 20021205 - RAY MICHAEL [US]  
• See references of WO 2004068454A2

Citation (examination)  
US 6495829 B1 20021217 - ODA NAOKI [JP]

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DOCDB simple family (publication)  
**US 2004140428 A1 20040722; US 6891161 B2 20050510**; EP 1584084 A2 20051012; EP 1584084 A4 20091216; JP 2006514787 A 20060511; WO 2004068454 A2 20040812; WO 2004068454 A3 20050324

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**US 34621303 A 20030117**; EP 04702221 A 20040114; JP 2005518808 A 20040114; US 2004001067 W 20040114